ABSTRACT OF THE DISCLOSURE

The present invention is a method for synthesizing microarrays having different oligonucleotides present within one feature area of the array. The method utilizes the techniques common to microarray synthesis, but limits the duration in which selected feature areas on the array are initially dosed with light so as to only deprotect a calculated ratio of the compounds forming the array's binding layer. The compounds initially deprotected are capped with a non-photosensitive protecting group, such as di-methoxy-trityl, to inhibit their involvement in the synthesis of a first group of DNA strands built onto the array. Once the first group of DNA strands have been synthesized, the original deprotected group may then be further processed to build one or more groups of DNA strands in the same feature area as the first group of DNA strands. The present invention also includes microarrays manufactured using the method.

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